REMARKS

The January 15, 2004 office action rejected all claims on obviousness grounds under 35 U.S.C. § 103(a). Claims 1, 3-9, and 11-16 were rejected as unpatentable over U.S. Patent No. 6,487,191 to Kang et al. ("Kang") in view of U.S. Patent No. 6,473,624 to Corbett et al. ("Corbett"). Claims 17-19 were rejected as unpatentable over Kang in view of Corbett and U.S. Patent No. 5,946,634 to Korpela. An interview was conducted between the Examiner and the undersigned on April 30, 2004. Further to that interview and in view of the foregoing amendments and these remarks, Applicant requests reconsideration and further examination of the application.

The present invention applies to control of downlink transmit power in the multiple base stations involved in a soft handoff of a wireless terminal (sometimes referred to in the application as "user equipment" or "UE"), such as a mobile terminal in a CDMA cellular telephone system. During a soft handoff a mobile terminal is in communication over user channels with two or more base stations. In accordance with the invention, the mobile terminal transmits information for use in control of a base station user channel downlink transmit power, and a reference power for use by the base stations is determined based in part on the information received from the mobile terminal.

The primary reference relied upon in the final rejection is Kang, which discloses control of the power of base station transmitted signals. Kang's mobile station 100, shown in normal operation in communication with base station 102, measures the signal-to-noise ratio of the signal from base station 102 and compares the measured signal-to-noise ratio with a target value. Mobile station 100 sends a power increase request to base station 102 if the measured signal-to-noise ratio is smaller than the target value, and sends a power decrease request to base station 102 if the measured signal-to-noise ratio is larger than the target value. (Col. 5, lines 25-32.) Such operation is well-known and was described in the background of the invention section of the present application, both for normal operation and in soft handoffs. (Page 1, line 10 - page 2, line 21.)

Kang's invention addresses power control of base stations 120, 103, 104 in a soft handoff with mobile station 101. If the combined signal-to-noise ratio of the base stations 102, 103, 104 involved in the soft handoff is larger than the target value, mobile station 101 sends a power decrease request to all of them. If the combined signal-to-noise ratio of the base stations 102,

103, 104 involved in the soft handoff is smaller than the target value, mobile station 101 sends a power increase request only to the base station having the largest pilot signal-to-noise ratio, and sends a power decrease request to the other base stations involved in the soft handoff. (Col. 5, lines 32-44.) An example of signaling for such operation is to provide a first bit for the power increase/decrease request for base station 102, a second bit for the power increase/decrease request for base station 103, and a third bit for the power increase/decrease request for base station 104. (Col. 5, lines 49-52.)

The only information Kang discloses as being transmitted by or received from a mobile terminal in connection with power control is a power increase or decrease request to one or more base stations. The only power control action Kang discloses as being taken in response to the power control information transmitted by a mobile terminal is a base station increasing or decreasing its transmit power as requested by the mobile terminal. (E.g., col. 6, lines 1-7.) Accordingly, Kang lacks several claim elements for which it was cited on the January 15, 2004 office action.

Independent claims 4, 6, 12, 14, and 17 include, in general terms, signals transmitted by or received from user equipment (e.g., a mobile terminal) in a soft handoff that include:

a) an identifier of a base station with a received signal at the user equipment that is stronger than the received signal of other base stations, and

b) a signal-to-noise ratio value of the signal received from the identified base station. Kang discloses neither element.

Independent claims 1 and 9 include, in general terms, signals received from user equipment (e.g., a mobile terminal) in a soft handoff that include an excess signal-to-noise ratio value. Excess signal-to-noise ratio is disclosed in the specification as meaning how much stronger a received signal-to-noise ratio is in comparison to a signal-to-noise ratio target maintained by the mobile terminal. (E.g. page 4, lines 3-7; page 6, lines 11-14; page 7, lines 26-30.) Claims 1 and 9 have been amended to specify that the signal-to-noise ratio value received from user equipment is an excess signal-to-noise ratio value determined as the amount by which a signal-to-noise ratio value of one or more user channel signals received at the user equipment exceeds a target signal-to-noise ratio value. Kang does not disclose this element. For purposes of consistency, the dependent claims which referred to excess signal-to-noise ratio (5, 8, 13, and 16) have been amended correspondingly.

In view of the above amendments and remarks, it is believed that the pending claims are in condition for allowance. Early and favorable action is respectfully solicited.

Respectfully submitted,

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